



6712-01

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 87

[WT Docket No. 01-289; FCC 18-155]

Aviation Radio Service

AGENCY: Federal Communications Commission.

ACTION: Final rule; lifting of stay.

SUMMARY: In this document, the Federal Communications Commission (Commission or FCC) adopts a rule that prohibits the certification, and after a six-month transition period, the manufacture, importation, or sale of 121.5 MHz Emergency Locator Transmitters (ELTs), but declines to prohibit the use of 121.5 MHz ELTs. By accelerating the transition from 121.5 MHz ELTs to 406 MHz ELTs, this rule change will enhance the ability of search and rescue personnel to locate and bring aid to the victims of plane crashes.

DATES: The rule is effective **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The stay of § 87.195 is lifted effective **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Federal Communications Commission, 445 12th Street, SW, Washington DC 20554.

FOR FURTHER INFORMATION CONTACT: Jeffrey Tobias, Jeff.Tobias@FCC.gov, Wireless Telecommunications Bureau, (202) 418-1617, or TTY (202) 418-7233.

SUPPLEMENTARY INFORMATION: This is a summary of the Federal Communications Commission's Fourth Report and Order in WT Docket No. 01-289, FCC 18-155, adopted on November 7, 2018, and released on November 8, 2018. The full text of this document is available for inspection and copying during normal business hours in the FCC Reference

Information Center, Portals II, 445 12th Street, SW, Washington, DC 20554. Alternative formats are available to persons with disabilities by sending an e-mail to fcc504@fcc.gov or by calling the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty). To request materials in accessible formats for persons with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty). The complete text is also available on the Commission's Web site at: www.fcc.gov.

1. Emergency Locator Transmitters (ELTs) are radio beacons that are carried on board aircraft and triggered in the event of a crash or other unplanned downing. The Commission authorizes these devices to serve as an effective locating aid for survival purposes. For years, the ELTs operated only at 121.5 MHz, with their transmissions monitored by an international satellite-based system (the Cospas-Sarsat system) that could determine their location over most of the world's major air and sea travel paths. By 2010, however, the Cospas-Sarsat system limited tracking of ELTs to a newer type operating primarily at 406 MHz, thus eroding the utility of the 121.5 MHz ELTs as an effective locating aid. By accelerating the transition to 406 MHz ELTs with the rule changes we adopt in this Fourth Report and Order, we will enhance the ability of search and rescue personnel to locate and bring aid to the victims of plane crashes.

2. Section 332 of the Communications Act of 1934, as amended (the Act), states that the Commission, “[i]n taking actions to manage the spectrum to be made available for use by the private mobile services . . . shall consider . . . whether such actions will . . . promote the safety of life and property; [or] (2) improve the efficiency of spectrum use and reduce the regulatory burden upon spectrum users, based upon sound engineering principles, user operational requirements, and marketplace demands” Section 303 of the Act further requires the Commission, pursuant to its licensing authority, to “prescribe the nature of the service to be rendered by each class of licensed stations and each station within any class.” In concert with these direct statutory mandates, the Commission has an obligation to advance the goal “of

obtaining maximum effectiveness from the use of radio and wire communications in connection with safety of life and property.”¹

3. In furtherance of these statutory responsibilities, the Commission authorizes and regulates three types of satellite emergency radiobeacons: Emergency Position-Indicating Radiobeacons (EPIRBs),² Personal Locator Beacons (PLBs),³ and ELTs.⁴ ELTs are activated after an aircraft crash to alert search and rescue personnel of the incident and to identify the location of the aircraft and any survivors. Most aircraft, including most general aviation (GA) aircraft, are required by federal statute to carry an ELT.

4. The two types of ELT now in service are the 406 MHz ELT and the 121.5 MHz ELT.⁵ 406 MHz ELTs transmit a 406 MHz digital distress signal containing information on the type of emergency, the country and identification code of the beacon, and other data to assist search and rescue operations; and a lower-powered homing signal on 121.5 MHz to guide search and rescue teams to the aircraft once they arrive in the general area. 121.5 MHz ELTs transmit an analog signal on 121.5 MHz containing only an audio alert, intended to serve both as a distress signal and a homing signal.⁶

5. As technology continues to evolve, the Commission must periodically reevaluate and, to the extent necessary, modify the requirements for services it regulates. Developments in

¹ The Act also mandates that the Commission “encourage the larger and more effective use of radio in the public interest.” In addition, the Act and its statutory predecessors, the Radio Acts of 1912 and 1927, have long reflected Congress’s special concern about protecting the integrity of distress communications.

² EPIRBs are float-free emergency transmitters carried on marine vessels that alert maritime search and rescue authorities that the vessel is in distress.

³ PLBs are emergency transmitters available to the general public to alert search and rescue personnel in case of a life-threatening emergency in a remote area.

⁴ See 47 CFR 87.199.

⁵ ELTs, like EPIRBs, were initially authorized to operate only on 121.5 MHz and (primarily for military use) on 243 MHz. In 1988, the Commission amended the part 80 rules to permit EPIRBs to operate on the frequency 406.025 MHz as well. In 1993, the Commission likewise authorized the use of 406.025 MHz by ELTs, noting that doing so had “overwhelming support.” PLBs have never been authorized to transmit a distress signal on 121.5 MHz, but only on 406.025 MHz.

⁶ The term “121.5 MHz ELTs,” as used here, refers only to ELTs designed to transmit the distress alert on the frequency 121.5 MHz. (Such ELTs are sometimes referred to as 121.5/243 MHz ELTs.) It does not include 406 MHz ELTs, notwithstanding that 406 MHz ELTs use 121.5 MHz for a homing signal, and we emphasize that nothing we do here prevents the certification, manufacture, importation, sale, or use of 406 MHz ELTs, or is intended to restrict the use of the 121.5 MHz frequency for homing.

the satellite monitoring framework used by EPIRBs and ELTs have undermined their reliance on 121.5 MHz as the key frequency that enables them to effectively perform the public safety functions for which they were authorized. More specifically, the Cospas-Sarsat satellite system⁷ had formerly monitored both the 121.5 MHz and 406 MHz bands for EPIRBs and ELTs and had relayed distress alerts to the appropriate search and rescue authority. In 2000, however, Cospas-Sarsat announced that, beginning in 2009, it would cease monitoring 121.5 MHz because of reliability and false alert concerns with 121.5 MHz radiobeacons, and it urged 121.5 MHz radiobeacon users to switch to 406 MHz radiobeacons. The National Oceanic and Atmospheric Administration (NOAA), the U.S. Coast Guard (USCG), the U.S. Air Force, and the National Aeronautics and Space Administration (NASA)—which administer the Cospas-Sarsat system in the United States—also advised users to switch to 406 MHz radiobeacons.

6. Because of these developments, the Commission in 2002 modified the rules governing EPIRBs to phase out use of EPIRBs designed to transmit distress alerts on the 121.5 MHz frequency (121.5 MHz EPIRBs); certification of 121.5 MHz EPIRBs ceased immediately, sale and manufacture of 121.5 MHz EPIRBs was prohibited as of 2003, and use of 121.5 MHz EPIRBs was prohibited effective December 31, 2006.

7. The Commission in 2006 requested comment on actions it should take with regard to 121.5 MHz ELTs in light of the scheduled termination of Cospas-Sarsat monitoring of 121.5 MHz. Commenters generally supported a phase-out of 121.5 MHz ELTs.⁸

8. In 2010, after Cospas-Sarsat stopped monitoring 121.5 MHz, the Commission amended § 87.195 of the rules in the Third Report and Order (3rd R&O) (76 FR 17347, March 29,

⁷ Cospas-Sarsat is an international satellite-based search and rescue system established by Canada, France, Russia, and the United States. Cospas is an acronym for a Russian phrase meaning space system for search and distress vessels. Sarsat stands for Search and Rescue Satellite Aided Tracking. ELTs also can be monitored by ground-based air traffic control facilities and by passing aircraft.

⁸ The National Telecommunications and Information Administration (NTIA) and Federal Aviation Administration (FAA) stated that they generally supported the proposals in the Second FNPRM (71 FR 70710, December 6, 2006), but did not specifically address the issue of 121.5 MHz ELTs. Only one commenter opposed a phase-out of 121.5 MHz ELTs, arguing without elaboration that “alternative ELT surveillance technology will emerge” and stating that 406 MHz ELT prices were “exorbitant.”

2011) in this proceeding to prohibit the continued certification, manufacture, importation, sale, and use of 121.5 MHz ELTs.⁹ After the 3rd R&O was released in 2010, the Federal Aviation Administration (FAA) and the Aircraft Owners and Pilots Association (AOPA) asked the Commission to revisit its decision to prohibit 121.5 MHz ELTs.¹⁰ In response to their concerns, the Commission stayed its amendment of § 87.195.

9. In the 2013 Third Further Notice of Proposed Rule Making (3rd FNPRM) (78 FR 6276, January 30, 2013) in this proceeding, the Commission requested additional comment on the appropriate regulatory treatment of 121.5 MHz ELTs.¹¹ Stating that it “continue[d] to believe that a phase-out of 121.5 MHz ELTs is in the public interest” based on the record established to that date, even as augmented by the information and arguments submitted after the release of the 3rd R&O, the Commission proposed to prohibit further certification of new 121.5 MHz ELTs immediately and to prohibit any further manufacture, importation, or sale of 121.5 MHz ELTs one year after the effective date of the rule amendments. The Commission also sought comment on whether to prohibit the use of 121.5 MHz ELTs. It also asked whether it should grandfather continued use of installed 121.5 MHz ELTs only for a defined time period, and, if so, how long; or whether installed 121.5 MHz ELTs should be grandfathered indefinitely, so that GA aircraft owners and pilots would not have to replace their 121.5 MHz ELTs until the end of the equipment’s useful life.

10. In addition, the Commission requested information on matters that had not been fully addressed by commenters prior to adoption of the 3rd R&O. It requested data on the costs

⁹ The Commission concluded that the benefits of mandating a transition to 406 MHz ELTs outweighed the compliance costs, especially since the GA community had been on notice for ten years that satellite monitoring of 121.5 MHz would end.

¹⁰ Both the FAA and AOPA said that 121.5 MHz ELTs retain safety value even after the termination of Cospas-Sarsat monitoring of the frequency, and expressed concern about the cost and availability of 406 MHz ELTs for those who would be required to replace a 121.5 MHz ELT.

¹¹ The initial pleading cycle required the filing of comments by March 1 and reply comments by March 18, 2013. The Wireless Telecommunications Bureau extended those deadlines to April 1 and May 2, 2013. The U.S. Department of Transportation (DOT) and the National Telecommunications and Information Administration (NTIA) separately filed comments after the close of the pleading cycle, which we will treat as ex parte presentations and accept into the record of this proceeding in the interest of having as complete a record as possible to inform our decisions.

and benefits of a mandatory phase-out of 121.5 MHz ELTs, both for aircraft owners and pilots and for search and rescue agencies and personnel. It also asked for comment on the sufficiency of the inventory of 406 MHz ELTs to satisfy the expected demand if a transition to such equipment is mandated, on the residual safety benefits, if any, of 121.5 MHz ELTs, and on whether mandating a transition from 121.5 MHz to 406 MHz ELTs is warranted in light of the availability of alternative technologies that may provide similar or arguably greater safety benefits, such as Automatic Dependent Surveillance – Broadcast (ADS-B) service.¹²

11. In this Fourth Report and Order, we prohibit the certification and, after a six-month transitional period, the manufacture, importation, and sale of 121.5 MHz ELTs. This will accelerate the transition to 406 MHz ELTs and, as a consequence, enhance the ability of search and rescue personnel to locate and bring aid to the victims of plane crashes and provide safety benefits to search and rescue personnel as well as pilots and passengers.

12. Certification. As proposed in the 3rd FNPRM, we prohibit certification of new models of 121.5 MHz ELTs as of the effective date of this Fourth Report and Order.¹³ Several commenters confirm that, as the Commission previously noted, there should be no new models of 121.5 MHz ELTs to certify because in 2012 the FAA canceled its Technical Standard Order for 121.5 MHz ELTs, which precludes approval of any new models. We agree with the National Telecommunications and Information Administration (NTIA) and ELT manufacturers that there is no reason to hold open the possibility of certifying new 121.5 MHz ELTs. Although some commenters oppose any measure that might restrict the availability of 121.5 MHz ELTs, including prohibiting the certification of new models of 121.5 MHz ELTs, they do not offer a

¹² ADS-B service automatically broadcasts GPS-derived data on the location, velocity, altitude, heading, etc., of an ADS-B-equipped aircraft to other ADS-B-equipped aircraft and ground stations for distribution to air traffic control systems. ADS-B is the foundation of the Next Generation Air Transportation System, or NextGen, which is designed to transform the air traffic control system in United States airspace by shifting from reliance on ground radar and navigational aids to satellite-based tracking.

¹³ The effective date is 30 days after Federal Register publication.

rationale for allowing such continued certification.¹⁴ Accordingly, we amend § 87.195 of our rules to discontinue such certification.

13. Manufacture, importation, and sale. We will prohibit the manufacture, importation, and sale of 121.5 MHz ELTs, beginning six months after the effective date of this Fourth Report and Order, as suggested by NTIA. We conclude that this action is necessary to ensure that ELTs continue to serve their authorized purpose of providing an effective, spectrum-based way to facilitate locating aircraft for survival purposes; and to manage the spectrum available for use by the private mobile service to ensure the effective and efficient use of that spectrum for safety-related communications. These rule changes will substantially improve the efficiency and reliability of the services using this spectrum.¹⁵

14. The record demonstrates that 121.5 MHz ELTs were clearly inferior to 406 MHz ELTs due to interference and other concerns even prior to the termination of satellite monitoring of 121.5 MHz,¹⁶ and that the advantages of 406 MHz ELTs have increased since then.¹⁷ The global coverage,¹⁸ reduction in false alerts,¹⁹ and more precise identification of crash sites²⁰

¹⁴ GAMA argues that prohibiting certification of 121.5 MHz ELTs would impose an unnecessary regulatory mandate. We disagree. A Commission determination not to certify any additional models of 121.5 MHz ELTs does not mandate that private sector entities take any actions or expend any funds.

¹⁵ This action is consistent with previous Commission efforts establishing technical requirements specifically for ELTs and other emergency radiobeacons to ensure that they work efficiently and reliably as intended.

¹⁶ ELTech notes that 121.5 MHz ELT transmissions are “problematic due to their harmonics.” It states that the United States Air Force Rescue Command Center “has reported looking for downed aircraft and being thwarted by 121.5 signals being ‘retransmitted’ along the power grid,” and many unintentional radiators on 121.5 MHz interfered with Cospas-Sarsat’s ability to respond to actual distress transmissions on the frequency. In determining that helicopters conducting over-water operations be required to carry 406 MHz ELTs, the FAA cited “a stronger signal resulting in less interference” as one of the benefits of 406 MHz ELTs vis-a-vis 121.5 MHz ELTs.

¹⁷ NTIA submitted with its comments a 1996 NOAA report quantifying the benefits of 406 MHz ELTs compared to 121.5 MHz ELTs. Similarly, with respect to EPIRBs, the Commission noted that even before the termination of satellite monitoring, “[l]ifesaving efforts [we]re often ineffective when 121.5/243 MHz EPIRBs transmit because there [wa]s no available registration information to aid detection [and] . . . 406 MHz EPIRBs [we]re responsible for four times the number of lives saved as 121.5/243 MHz EPIRBs, while being responsible for only two percent of the total number of false alerts attributed to 121.5/243 MHz EPIRBs.”

¹⁸ In contrast to the global coverage of a 406 MHz ELT, a 121.5 MHz ELT distress signal may not be detected “unless the incident occurs near an airport, the plane’s 121.5 MHz signal is detected by an overflying aircraft, or the downed plane fails to arrive at its intended destination,” and any notification that does occur may be hours after the crash.

provided by 406 MHz ELTs can save the lives of pilots and passengers,²¹ and reduce both the cost to taxpayers of search and rescue operations and the risks borne by search and rescue personnel.²² 406 MHz ELTs also are more likely than 121.5 MHz ELTs to activate in the event of an actual crash. They have safer, more reliable batteries; and better heat, cold, vibration, and fire resistance.

15. Although it appears that most GA aircraft owners and pilots are aware that satellite monitoring of 121.5 MHz ELTs has ceased,²³ some users may place unwarranted reliance on the protective value of 121.5 MHz ELTs based on a mistaken understanding of the scope and efficacy of non-satellite-based monitoring of the frequency, if these ELTs continue to be marketed indefinitely. As discussed below, despite the claims of some commenters regarding the vestigial benefits of 121.5 MHz ELTs, the great weight of the record evidence indicates that these benefits are marginal at best and more than offset by the difficulties for search and rescue efforts that would attend allowing the indefinite continued installation of such ELTs. Finally, while the FAA and AOPA expressed concern in 2010 about the availability of 406 MHz ELTs, more recent filings in the record establish that manufacturers have more than sufficient manufacturing

¹⁹ The National Transportation Safety Board (NTSB) has noted that detectable 121.5 MHz signals can be emitted by, *e.g.*, automated teller machines, pizza ovens, CD players, and stadium scoreboards. Moreover, a significant number of alerts from 121.5 MHz ELTs turn out to be false alarms. As noted above, 406 MHz ELTs transmit a digital signal encoded with unique information about the aircraft and its owner that permits speedy verification that a distress situation is real.

²⁰ NTIA says that the greater accuracy of 406 MHz ELTs reduces the search area for a crash to less than two nautical miles (3.7 km) in radius, or approximately 43 square kilometers, and that 406 MHz ELTs, unlike 121.5 MHz ELTs, can be equipped with a GPS chip that can further refine the search area to within 100 meters of a crash. In contrast, “The U.S. SARSAT program estimates that, if a commercial airliner flying at 30,000 feet detects a 121.5 MHz signal, the probable search area would have a radius of 198 miles (about 317 km), and an area of 123,613 square miles (315,696 km²).”

²¹ Under FAA regulations, planes designed to carry not more than one person are exempt from the ELT carriage requirement.

²² ACR notes that the greater precision of 406 MHz ELTs not only enhances the likelihood that a survivor will receive medical care more quickly but also minimizes risk to search and rescue personnel by allowing them to reach the crash scene with less flying, hiking, etc.

²³ In the 3rd FNPRM, the Commission asked whether, if it permitted the continued sale of 121.5 MHz ELTs, it should enact additional requirements, such as labeling or point-of-sale disclosure requirements, to ensure that purchasers are aware that 121.5 MHz ELTs lack satellite alerting capability. NTSB states that it does not believe such requirements are necessary in light of survey data indicating that 96 percent of AOPA’s members are aware that Cospas-Sarsat no longer monitors 121.5 MHz. We agree and therefore decline to adopt any labeling or point-of-sale disclosure requirements during the remaining period when sale of 121.5 MHz ELTs will be permitted.

capacity and depth of supply chain to meet demand for such ELTs.

16. Commenters opposed to prohibiting the manufacture, importation, and sale of 121.5 MHz ELTs argue that such action will impose costs that outweigh the benefits. Some commenters argue that the benefits of phasing out 121.5 MHz ELTs in favor of 406 MHz ELTs have been overstated because 121.5 MHz ELTs' continued safety benefits have not been fully recognized.²⁴ The record indicates, however, that current monitoring of 121.5 MHz distress transmissions is sporadic²⁵ and geographically limited.

17. There is no evidence, moreover that the costs to ELT manufacturers and distributors would be substantial, for manufacturers indicate that they would not be burdened with stranded inventory. The record indicates that manufacturers, distributors, and retailers do not have significant on-the-shelf inventories of 121.5 MHz ELTs due to battery life issues.

18. The Aviation Suppliers Association (ASA) does not dispute that existing inventories can be depleted quickly, but argues that prohibiting the sale of 121.5 MHz ELTs would work an unconstitutional taking of property under the Fifth Amendment by rendering distributors' inventory of 121.5 MHz ELTs worthless. The Supreme Court has established a three-part test for determining whether a regulatory taking has occurred, in which a court will consider (1) the economic impact of the regulation on the claimant, (2) the extent to which the regulation interferes with the claimant's investment-backed expectations, and (3) the character of the government regulation or action. There is no evidence in the record to suggest that these criteria have been met. Moreover, ASA does not cite, and we are otherwise are not aware of, any

²⁴ DOT states, for example, that 121.5 MHz ELTs "continue to provide a beneficial means of locating missing aircraft in critical emergency situations" because 121.5 MHz ELT signals "continue to be monitored by the search and rescue community, most notably the Civil Air Patrol" The record indicates, however, that there is no formal CAP monitoring of the frequency, and that CAP supports a deliberate transition to 406 MHz technology. (Moreover, as noted, the position of the Executive Branch, as reflected in the NTIA Ex Parte filed six months after the DOT Ex Parte, reflects support for a complete switchover to 406 MHz ELTs.) Others argue that since 121.5 MHz ELTs were deemed to promote aviation safety prior to satellite monitoring, they should be deemed to continue to have such value even after the cessation of satellite monitoring.

²⁵ NTIA, for example, notes that the FAA Aeronautical Information Manual states only that pilots are "encouraged" to monitor 121.5 MHz while in flight to assist in identifying possible ELT transmissions.

authority for the proposition that prohibiting the sale of legacy devices, particularly following a transition period, constitutes a Fifth Amendment regulatory taking. Phasing in prohibitions such as the ones adopted herein is a common and necessary approach where the Commission has determined that ongoing use of legacy devices will be incompatible with changes in spectrum use mandated by the public interest, and operates to mitigate the “economic impact” of the governmental regulatory action.

19. It also does not appear that removing 121.5 MHz ELTs from the marketplace will impose significant costs on users in terms of a future price differential between 406 MHz ELTs and 121.5 MHz ELTs. The only responsive data to the Commission’s request for “specific data on the costs of purchasing and installing a 406 MHz ELT” suggests that the price differential between 406 MHz ELTs and 121.5 MHz ELTs has decreased significantly in the last few years, and will decrease further: in 2010, the FAA estimated the average cost of a 406 MHz ELT to be more than \$2,500, but comments submitted in 2013 indicate that the price had already dropped to less than half of that.²⁶ Based on staff review of publicly available information, we believe that 406 MHz ELTs are now available for less than \$600. Commenters who oppose the proposed prohibitions have not offered any information to quantify costs to the GA community from prohibiting the manufacture, importation, or sale of 121.5 MHz ELTs. Consequently, we are not persuaded by unsubstantiated claims that costs to GA aircraft owners and pilots resulting from the removal of 121.5 MHz ELTs from the market would hinder them from investing in other equipment or measures that would make more efficient use of this spectrum and better promote aviation safety.

20. Nor do we agree that prohibiting the manufacture, importation, and sale of 121.5 MHz ELTs is unnecessary because a transition to 406 MHz ELTs will occur naturally over time

²⁶ ACK states that commenters opposing the Commission’s proposals rely on outdated FAA data estimating the average cost of a 406 MHz ELT at \$2,800, and that retail costs of GPS-capable 406 MHz ELTs have fallen to as low as \$550. It adds that a complete new installation, including parts and labor, would cost between \$830 and \$1,100. ELTech says that 406 MHz ELTs are now available for between \$600 and \$1600, with an additional \$250 to \$400 in labor costs for installation. ELTech Comments at 3.

without Commission intervention. That a migration would occur eventually does not justify inaction, when the modest action that we are taking here should expedite the changes to the nature of this service that we have determined, pursuant to section 303(b), will maximize the efficient use of spectrum and best serve the public interest, convenience, and necessity. Similarly, in considering whether this action in managing the spectrum will promote the safety of life and property, as required by section 332(a), we find that it would disserve the public interest to take a slower path than the one we have chosen here. Moreover, for the reasons discussed below, we have determined that imposing a direct ban on licensee use of 121.5 MHz ELTs would be unlikely to produce a substantially quicker transition to 406 MHz ELT use. Accordingly, we impose this phased-in prohibition on the manufacture, importation, and sale of 121.5 ELTs to fulfill our statutory responsibilities effectively.

21. Commenters who favor prohibiting the manufacture, importation, and sale of 121.5 MHz ELTs support a transition period of one year (as proposed in the 3rd FNPRM) or less. We believe that, at this juncture, a six-month transition period strikes a reasonable compromise in accelerating the removal of 121.5 MHz ELTs from the stream of commerce while avoiding undue hardship to manufacturers, importers, vendors, and users of the devices. Manufacturers, importers, vendors, and users have been on notice for many years that 121.5 MHz ELTs would have a diminishing role in avionics, and it appears that there is currently very little manufacturing or sales activity involving 121.5 MHz ELTs. We therefore amend § 87.195 of our rules to prohibit the manufacture, importation, or sale of 121.5 MHz ELTs, beginning six months from the effective date of this Fourth Report and Order.²⁷

²⁷ ACR also favors a one-year phase-out of the sale and installation of replacement batteries, and an immediate prohibition on the manufacture and importation of battery packs, replacement parts, and on-field servicing of 121.5 MHz ELTs. In the 3rd FNPRM, the Commission stated that it was “not proposing any prohibition or restriction on the manufacture, sale, or installation of replacement components, such as batteries, for 121.5 MHz ELTs in use [because] . . . permitting the continued marketing of replacement components for 121.5 MHz ELTs does not present the same concerns, and would not delay the transition to 406 MHz ELTs to the same extent, as permitting the continued marketing of stand-alone 121.5 MHz ELTs.” The Commission also invited comment on this issue, however. We decline to prohibit the

22. Use. After reviewing the record and the relevant statutory authority, we do not adopt a prohibition on the continued use of existing 121.5 MHz ELTs. Some commenters favor prohibiting the use of 121.5 MHz ELTs based on the same considerations that underlie their support for the Commission's proposals to prohibit the manufacture, importation, and sale of 121.5 MHz ELTs, albeit after a longer transition period to minimize the cost burden on the GA community. NTIA recommends a transition period of eight years before the use of 121.5 MHz ELTs is prohibited, while others advocate shorter grandfathering periods.

23. Those who oppose a prohibition on the use of 121.5 MHz ELTs, even if accomplished gradually and with grandfathering protections, argue that it would impose costs on the GA community that outweigh the benefits; that it is unnecessary because a transition to exclusive use of 406 MHz ELTs will occur naturally over time; and that requiring users of 121.5 MHz ELTs to upgrade to 406 MHz ELTs by a specified deadline would foreclose them from investing in other equipment and measures that would better promote aviation safety. While these are generally the same arguments that these parties raise against prohibiting the manufacture, importation, and sale of 121.5 MHz ELTs, the record indicates that these parties' greatest concern is with prohibiting the use of 121.5 MHz ELTs, and that they are most strongly opposed to the adoption of a rule that might require GA aircraft owners to replace 121.5 MHz ELTs before the end of their useful lives, especially given the imminence of an ADS-B mandate (scheduled to take effect in 2020) that would require an additional significant expenditure of funds for new equipment; they fear that, after purchasing and installing a 406 MHz ELT, they will be required a few years later to purchase ADS-B equipment that provides equivalent or greater safety benefits.

24. Commenters also contend that the statutory provision requiring most fixed-wing

manufacture, importation, sale, or installation of replacement components for 121.5 MHz ELTs both for the reasons stated in the 3rd FNPRM and because we believe that such action would be inconsistent with our decision to permit the continued use of 121.5 MHz ELTs, as discussed below. If the continuing availability of replacement parts for 121.5 MHz ELTs appears to be frustrating our goal of speeding the transition to 406 MHz ELTs, we may revisit this issue.

powered civil aircraft to carry an ELT—section 44712 of Title 49 of the United States Code, which provides that an “aircraft meets the [ELT carriage] requirement . . . if it is equipped with an emergency locator transmitter that transmits on the 121.5/243 megahertz frequency or the 406 megahertz frequency or with other equipment approved by the Secretary for meeting the requirement”—forecloses the Commission from prohibiting use of 121.5 MHz ELTs.²⁸ Those who oppose a use prohibition also argue that the Commission should defer to the FAA on this issue, and that it would be inappropriate for the Commission to prohibit the use of 121.5 MHz ELTs when the FAA has declined to do so. The proponents of a use prohibition do not address the argument that section 44712 precludes such a prohibition.

25. We decline to prohibit the use of 121.5 MHz ELTs at this time.²⁹ The language of section 44712 casts doubt on our authority to prohibit the use of 121.5 MHz ELTs. Moreover, even if section 44712 permits such action, we question whether prohibiting the use of 121.5 MHz ELTs after a substantial transition period would bring about an end to the use of 121.5 MHz ELTs significantly sooner than what would occur naturally after such ELTs can no longer be certified, manufactured, imported, or sold. We anticipate that a transition to 406 MHz ELTs will occur naturally over time without additional Commission intervention beyond phasing out the certification, manufacture, importation, and sale of 121.5 MHz ELTs. It is possible, and perhaps likely, that a decision now to prohibit the use of 121.5 MHz ELTs after a transition period of up to eight years, as proposed by NTIA, could be overtaken by federal legislation, other legal

²⁸ In comments filed in advance of the NTIA Ex Parte, DOT also asserts that the relevant statutory language reflects “Congress’s unequivocal intent to permit the use of 121.5 [MHz] ELTs in civil aircraft.” We note that the DOT ex parte comments and the later-filed NTIA Ex Parte take conflicting positions regarding a use prohibition. While the DOT Ex Parte opposing a prohibition on the use of 121.5 MHz ELTs state that “DOT and FAA officials have shared the views expressed here with representatives of . . . NTIA,” NTIA says that its later-filed comments supporting the prohibition on the use of 121.5 MHz ELTs include the input of the FAA, supersede the earlier DOT ex parte comments, and “reflect the views of the Executive Branch on the issues raised in the [3rd FNPRM].”

²⁹ In light of this decision, we need not address arguments that we may not prohibit the use of 121.5 MHz ELTs because the Commission failed to provide adequate notice in the 3rd FNPRM that it was contemplating a use prohibition, failed to provide an adequate cost/benefit analysis of such a prohibition, or relied on a deficient Supplemental Initial Regulatory Flexibility Analysis.

developments, and/or technological advances, particularly with regard to ADS-B deployment.³⁰ We have rejected the idea that we should take no action at all to remove 121.5 MHz ELTs from the marketplace based on the argument that such devices would eventually cease to be marketed. However, we conclude that, in terms of accelerating the transition to exclusive use of 406 MHz ELTs, the marginal benefits of banning the use of 121 MHz ELTs, given the ban on future sales, do not outweigh the costs. Therefore, the public interest would not be advanced by a further rule change to the actions we are taking here, as it would not appear to provide any added net benefit. We reserve discretion to revisit this matter in furtherance of our statutory obligation to ensure the effective and efficient use of spectrum for safety-related communications if future events so warrant. Meanwhile, we encourage users to switch to 406 MHz radiobeacons at the earliest practical opportunity, in light of the safety benefits discussed above.

26. Finally, as proposed in the 3rd FNPRM, we revise § 87.147(b) of the rules to delete an outdated cross-reference. The rule cross-references subpart N of part 2 of the rules, but subpart N has been deleted. No commenter addressed this issue.³¹

27. **Procedural Matters.** Final Regulatory Flexibility Analysis. As required by the Regulatory Flexibility Act of 1980, as amended (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Third Further Notice of Proposed Rulemaking (Third FNPRM), at 78 FR 6276, January 30, 2013. The Commission sought written public comment on the proposals in the Third FNPRM, including comment on the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.

28. The rules adopted in the Fourth Report and Order are intended to promote aviation safety. Specifically, in the Fourth Report and Order, the Commission prohibits the certification

³⁰ Other commenters proposed shorter transition periods, but still long enough to raise questions regarding the incremental benefit of a use prohibition in light of these concerns. No party proposed an immediate or short-term transition.

³¹ RTCM's recommendation that we remove the labeling requirement in § 87.147(b) is beyond the scope of the 3rd FNPRM. In addition, as long as the manufacture, importation, and sale of 121.5 MHz ELTs is permitted, we believe that the labeling requirement should remain unchanged in order to avoid any confusion about the standard to which the unit was certified.

and, after six months, the manufacture, importation, or sale 121.5 MHz ELTs in order to accelerate the transition to the more reliable and effective 406 MHz ELTs, which will enhance the ability of search and rescue personnel to rapidly and safely identify and come to the aid of the victims of airplane crashes.

29. Commenters argued that that the IRFA was deficient because it did not provide an adequate costs/benefits analysis of prohibiting the continued use of 121.5 MHz ELTs, by understating the safety benefits of 121.5 MHz ELTs even after the cessation of satellite monitoring of 121.5 MHz, overstating the safety benefits of 406 MHz ELTs, and failing to fully recognize the compliance costs to general aviation aircraft owners and pilots of having to swap out a 121.5 MHz ELT for a 406 MHz ELT before the end of the useful life of the former. In the Fourth Report and Order, the Commission determined to not prohibit the use of 121.5 MHz ELTs, mooting these issues.

30. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the rules adopted herein. The RFA defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.” In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act. A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).

31. Small businesses in the aviation and marine radio services use a marine very high frequency (VHF), medium frequency (MF), or high frequency (HF) radio, any type of emergency position indicating radio beacon (EPIRB) and/or radar, an aircraft radio, and/or any type of emergency locator transmitter (ELT). The Commission has not developed a definition of small entities specifically applicable to these small businesses. For purposes of this analysis, therefore, the Commission uses the SBA small business size standard for the category “Wireless

Telecommunications Carriers (except satellite),” which is 1,500 or fewer employees. Census data for 2012 shows that there were 967 firms in that category that operated for the entire year. Of those 967, 955 had fewer than 1,000 employees, and 12 firms had 1,000 or more employees. Thus, under this category and the associated small business size standard, the majority of firms can be considered small.

32. Some of the rules adopted herein may also affect small businesses that manufacture aviation radio equipment. The Census Bureau does not have a category specific to aviation radio equipment manufacturers. The appropriate category is that for wireless communications equipment manufacturers. The Census Bureau defines this category as follows: “This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.” The SBA has developed a small business size standard for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, which is: all such firms having 750 or fewer employees. According to Census bureau data for 2012, there were a total of 841 firms in this category that operated that year. Of this total, 828 had fewer than 1,000 employees and 13 had 1,000 or more employees. Thus, under this size standard, the majority of firms can be considered small.

33. The rule changes adopted in the Fourth Report and Order do not impose any new reporting or recordkeeping requirements on any entity. The rule changes in the Fourth Report and Order prohibit manufacturers from filing applications with the Commission for the certification of new models of 121.5 MHz ELTs. This prohibition should not create any new burden for manufacturers, however, because the Federal Aviation Administration’s earlier cancellation of the Technical Standards Order (TSO) for 121.5 MHz ELTs already prohibits them from seeking such certifications. In addition, after a six-month transition period, no entity may manufacture, import or

sell 121.5 MHz ELTs. This rule change does not directly impose any requirements on aircraft owners or pilots or other users of 121.5 MHz ELTs, but as a consequence of the rules adopted in the Fourth Report and Order, after the specified transition period, a user of a 121.5 MHz ELT that has reached the end of its useful life will be required to purchase a 406 MHz ELT rather than another 121.5 MHz ELT to replace it. Although some commenters expressed concern regarding the cost of 406 MHz ELTs, based on cost estimates exceeding \$2,500 per aircraft, we believe that the price of 406 MHz ELTs has dropped significantly in the period after those cost estimates were derived, and that 406 MHz ELTs are now available at a cost of \$600 or less per aircraft. In the IRFA accompanying the Third FNPRM, the Commission specifically identified each of the above rule amendments as potentially affecting reporting, recordkeeping and other compliance requirements, and specifically requested comment on the economic impact of these changes.

34. The RFA requires an agency to describe any significant alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.”

35. We believe that the decision in the Fourth Report and Order to prohibit certification of 121.5 MHz ELTs should not have an impact on small entities, including manufacturers, because the Federal Aviation Administration’s May 2012 cancellation of its Technical Standard Order (TSO) for 121.5 MHz ELTs, TSO C-91a, already precludes approval of any new models of 121.5 MHz ELTs.

36. To minimize the economic impact on small entities of the decision in the Fourth Report and Order to prohibit the manufacture, importation and sale of 121.5 MHz ELTs, we provide for a six-month transition period. That is, the prohibition will not take effect until six

months after the effective date of the Fourth Report and Order. The record indicates that this six-month transition period is more than sufficient to ensure that manufacturers and distributors of 121.5 MHz ELTs do not experience stranded inventory. In addition, the economic impact of these prohibitions on aircraft owners and pilots is minimized by the fact that we are not prohibiting the continued use of installed 121.5 MHz ELTs, and we are not prohibiting the manufacture, importation or sale of replacement parts for those 121.5 MHz ELTs.

37. Paperwork Reduction Act. This document does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198.

38. Congressional Review Act. The Commission will send a copy of this Fourth Report and Order to Congress and the Government Accountability Office pursuant to the Congressional Review Act.

39. **Ordering Clauses**. Accordingly, IT IS ORDERED that, pursuant to sections 4(i), 4(j), 303(b), 303(r) and 332(a) of the Communications Act of 1934, as amended, 47 U.S.C. sections 154(i), 154(j), 303(b) 303(r), and 332(a), this Fourth Report and Order IS HEREBY ADOPTED.

40. IT IS FURTHER ORDERED that the stay of the amendment to § 87.195 of the Commission's Rules adopted in the Third Report and Order in this proceeding IS LIFTED, and the amendment to § 87.195 of the Commission's Rules adopted in the Third Report and Order IS SUPERSEDED by the amendment to § 87.195 of the Commission's Rules adopted in this Fourth Report and Order, effective 30 days after publication in the Federal Register.

41. IT IS FURTHER ORDERED that part 87 of the Commission's Rules IS AMENDED as set forth in the Final Rules section, effective 30 days after publication in the Federal Register.

42. IT IS *FURTHER* ORDERED that the Commission SHALL SEND a copy of the

Fourth Report and Order in a report to Congress and the Government Accountability Office pursuant to the Congressional Review Act, see 5 U.S.C. section 801(a)(1)(A).

43. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of the Fourth Report and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

44. IT IS FURTHER ORDERED that this proceeding IS TERMINATED pursuant to section 4(i) and 4(j) of the Communications Act, 47 U.S.C. sections 154(i) and (j).

List of Subjects in 47 CFR Part 87

Aviation communications, Equipment.

FEDERAL COMMUNICATIONS COMMISSION

**Katura Jackson,
Federal Register Liaison Officer,
Office of the Secretary.**

Final Rules

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 87 as follows:

PART 87 – AVIATION SERVICES

1. The authority citation for part 87 continues to read as follows:

Authority: 47 U.S.C. 154, 303 and 307(e), unless otherwise noted.

2. Section 87.147 is amended by revising paragraph (b) to read as follows:

§ 87.147 Authorization of equipment.

* * * * *

(b) ELTs manufactured after October 1, 1988, must meet the output power characteristics contained in §87.141(i). A report of the measurements must be submitted with each application for certification. ELTs that meet the output power characteristics of the section must have a permanent label prominently displayed on the outer casing state, “Meets FCC Rule for improved satellite detection.” This label, however, must not be placed on the equipment without authorization to do so by the Commission. Application for such authorization may be made either by submission of a new application for certification accompanied by the required fee and all information and test data required by parts 2 and 87 of this chapter or, for ELTs approved prior to October 1, 1988, a letter requesting such authorization, including appropriate test data

and a showing that all units produced under the original equipment authorization comply with the requirements of this paragraph without change to the original circuitry.

* * * * *

3. Effective [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER], the stay of § 87.195 is lifted and the section is revised to read as follows:

§ 87.195 121.5 MHz ELTs.

ELTs that operate only on frequency 121.5 MHz will no longer be certified. The manufacture, importation, and sale of ELTs that operate only on frequency 121.5 MHz is prohibited beginning **July 10, 2019**. Existing ELTs that operate only on frequency 121.5 MHz must be operated as certified.

[FR Doc. 2018-26413 Filed: 12/11/2018 8:45 am; Publication Date: 12/12/2018]